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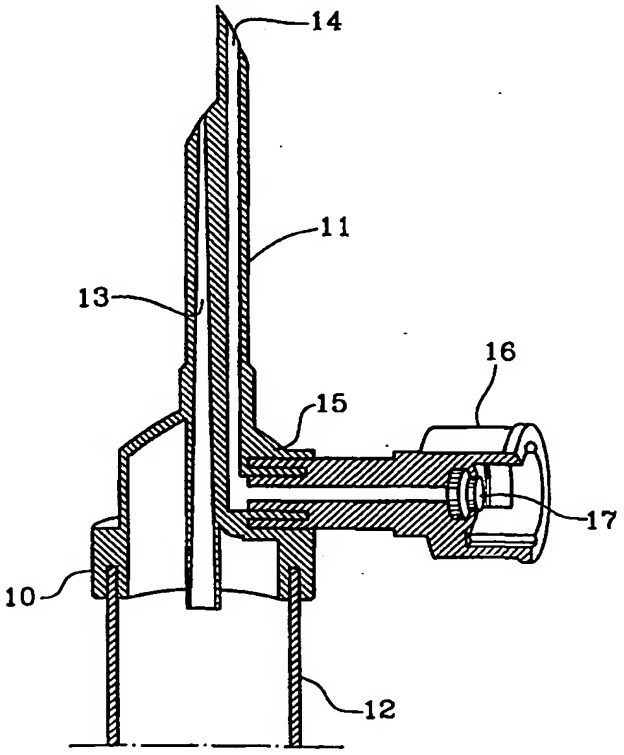
(54) Title: APPARATUS FOR ADMINISTRATING TOXIC FLUID

(57) Abstract

Device for administrating a toxic fluid, comprising an infusion device (10) for connection to an infusion bag. The infusion device is provided with an insertion portion (11) for connecting the bag, and an infusion chamber (12) for dosing a fluid flow via a flow duct (13) in the insertion portion from the bag to an outlet arranged on the chamber. The insertion portion also comprises a ventilating duct (14) which extends between the bag and the outside of the infusion device and ends in a connection (16) arranged on the side of the infusion device for supplying fluid to be administrated. The connection is provided with at least one membrane (17), which is air tight and penetrable by an injection needle.



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TITLE

Apparatus for administrating toxic fluid

TECHNICAL AREA

The present invention relates to a device for administrating a toxic fluid, comprising an infusion device for connection to an infusion bag, which infusion device is provided with a insertion portion for connecting the bag, and an infusion chamber for dosing a fluid flow via a flow duct in the insertion portion from the bag to an outlet arranged on the chamber, which insertion portion also comprises a ventilating duct which extends between the bag and the outside of the infusion device and ends in a connection arranged on the side of the infusion device for supplying the fluid to be administrated.

BACKGROUND OF THE INVENTION

In medical care highly toxic fluids, e.g. cytotoxic drugs or antiviral antibiotics, are dealt with. Each discharge of such fluids entails health hazards for staff and patients. Protective equipment should always be used when handling such fluids, e.g. fume cupboards, protective gloves and garments.

A system with penetrable double membranes is disclosed in SE-B-434,700, which system facilitates preparation and administration of a toxic fluid without it coming into contact with breathable air. However, there are still drawbacks when administrating to a patient via infusion, whereby an injector connected to the conical connection of a infusion bag of standard type under certain circumstances could come loose. In such a case are both membranes penetrated, so that discharge to breathable air can take place.

TECHNICAL PROBLEM

The purpose of the present invention is to accomplish an injector connection for supplying drugs to an infusion bag of standard type, which connection eliminates the risk of the drug coming in contact with breathable air.

THE SOLUTION

This is accomplished according to the invention by the connection being provided with at least one membrane, which is air tight and penetrable by an injection needle.

DESCRIPTION OF THE DRAWING

The invention will be described below referring to the embodiment, which is presented in the appended drawing, which schematically presents an infusion device according to the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

The figure shows an infusion device 10 for connecting an infusion bag, which is not shown. The infusion device comprises an insertion portion 11 for connecting the bag, and an infusion chamber 12 which in a known manner facilitates dosing a fluid flow through the chamber.

The insertion portion 11 also comprises on the one hand a flow duct 13, which extends from the bag into the chamber 12, and on the other hand a ventilating duct 14, which makes it possible to obtain a controllable supply of air to the bag so that the infusion fluid can evacuate from the bag in a controlled way. For this purpose the ventilating duct 14 is perpendicular and ends in a luer connection 15, which can be used for mounting an adjustable adjusting device for the supply of air to the bag.

A connection 16 with bayonet socket for an injector, which is not shown, is mounted outside the luer connection 15, e.g. using a cyan acrylate glue. The connection 16 is provided with a membrane 17, which is penetrable by an injection needle and which reseals when the needle is being withdrawn. A suitable material for the membrane is silicone.

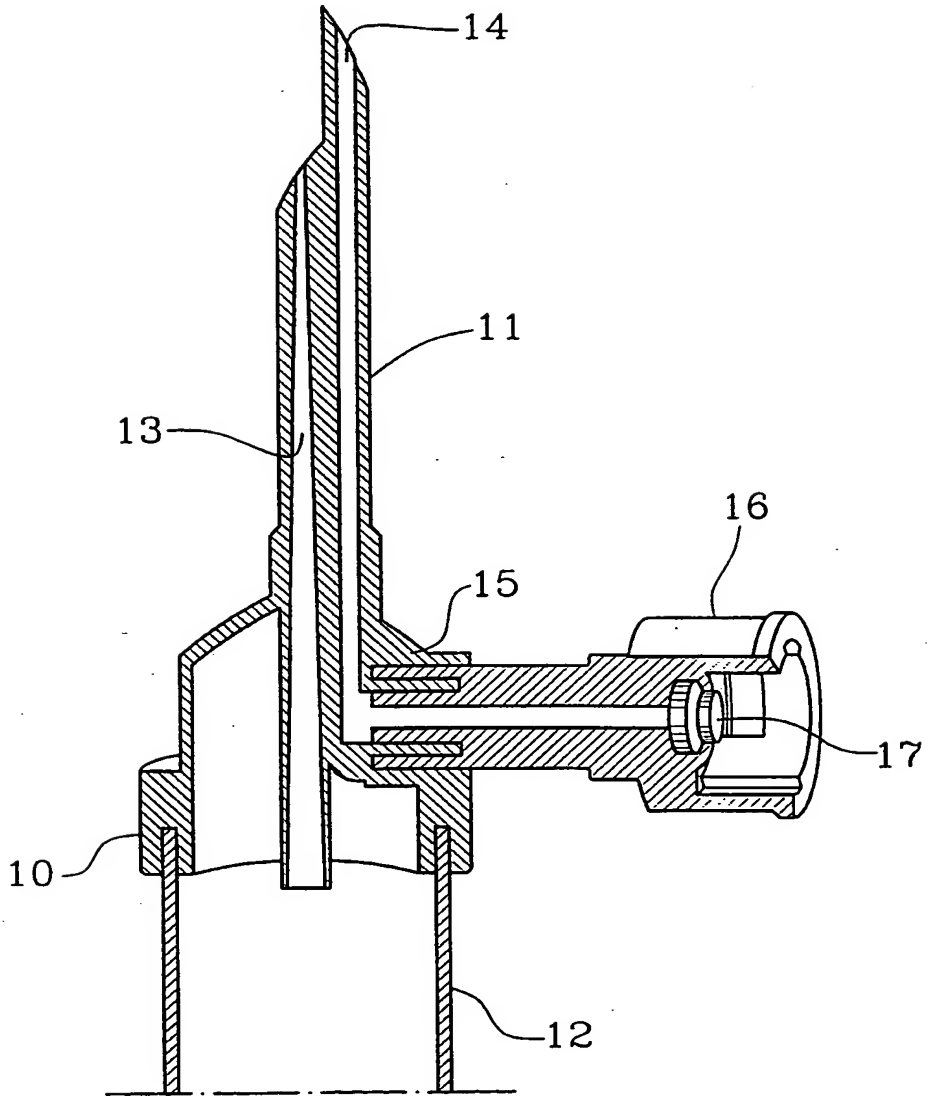
When administrating via infusion with the infusion device according to the invention, the infusion device is first connected normally to a bag with an infusion fluid. The infusion chamber and the tube is thereafter filled with an infusion fluid. An injector (not shown) with a corresponding bayonet socket, which is loaded with the dog to be administrated, and with an infusion needle connected thereto is mounted in the connection 16. The needle of the injector is now used to penetrate the membrane of the injector from the injector to the bag via the ventilating duct 14. Thereafter the injector needle is withdrawn through both membranes, so that the injector can be demounted. The infusion can now be started after mixing the contents of the bag.

The invention is not limited to the above described embodiment. For instance, the above described connection 16 provided with membrane can be connected to a container of a flexible material, such as a bag, which can be used as an air container, or to receive excess fluid.

CLAIMS

1. Device for administrating a toxic fluid, comprising an infusion device (10) for connection to an infusion bag, which infusion device is provided with an insertion portion (11) for connecting the bag, and an infusion chamber (12) for dosing a fluid flow via a flow duct (13) in the insertion portion from the bag to an outlet arranged on the chamber, which insertion portion also comprises a ventilating duct (14) which extends between the bag and the outside of the infusion device and ends in a connection (16) arranged on the side of the infusion device for supplying fluid to be administrated,
c h a r a c t e r i z e d i n,
that the connection is provided with at least one membrane (17), which is air tight and penetrable by an injection needle.

FIG. 1



INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 96/01411

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A61M 5/162
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO: WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 2206908 A1 (JAPAN MEDICAL SUPPLY CO. LTD.), 23 August 1973 (23.08.73), figure 2, claim 1	1

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2206908 A1	23/08/73	NONE	